

Authors

David W. Albrecht

General Products Division, San Jose, California

Mr. Albrecht is a staff engineer in the printer products development group. He joined IBM in 1970 as an associate engineer and has worked on the design and development of magnetoresistive and inductive magnetic recording heads. He received his B.S. in mechanical engineering from the University of Cincinnati in 1966. After receiving a commission in the U.S.A.F., he worked for four years in the Engineering Division of the Sacramento Air Material Area. In 1975 he received an IBM Outstanding Contribution Award for work on the 3850 Mass Storage System.

Gregory J. Chaitin

Research Division, Yorktown Heights, New York

Mr. Chaitin is a member of the experimental minicomputer project in the computer sciences department at the Thomas J. Watson Research Center. He studied at the City College of the City University of New York, where he was awarded the Belden Mathematical Prize in 1965, and the Nehemiah Gitelson Medal for the "Pursuit of Truth," in 1966. In 1967 he joined IBM World Trade in Buenos Aires, Argentina, where he was a programmer in the Service Bureau and later a systems engineer in data processing marketing. In 1976 he joined the computer sciences department at Yorktown Heights.

Luigi Fratta

Istituto di Elettrotecnica ed Elettronica, Politecnico di Milano, Italy

Dr. Fratta graduated from Polytechnic of Milan, Italy, in 1966. From 1967 to 1970, he worked at the Laboratory of Electrical Communications at the Polytechnic Institute of Milan. From 1970 to 1971, he worked on the ARPA Computer Network Project at the University of California, Los Angeles. Since 1972 he has been an associate professor at the Polytechnic Institute of Milan. From 1975 to 1976 he was on leave of absence at the computer sciences department at the IBM Thomas J. Watson Research Center, Yorktown Heights, New York. His research interests concern communication networks. Dr. Fratta is a member of the Association for Computing Machinery and the Institute for Electrical and Electronics Engineers.

Ralph Furtney

Deceased

Ralph Furtney received his B.S. degree in mechanical engineering from Michigan State College in 1957, and his M.S. degree in electrical engineering from the University of Southern California in 1965. He joined IBM in 1968 and worked on various aspects of magnetic-recording systems, including equalization, clocking, detection, and servo systems. His most recent work was in recording-channel design for advanced flexible media storage systems, in particular equalizer optimization with emphasis on coding considerations, and spread spectrum techniques for multiplexing synchronization information. Prior to joining IBM he worked with General Precision Incorporated Librascope on modeling and optimization of data storage and transmission systems. Mr. Furtney died in January of 1975. At that time he was working on the generation of worst-case patterns for specific channel and code combinations, which is the subject of his paper.

Santosh P. Gaur

System Products Division, East Fishkill, New York

Dr. Gaur, whose paper was written while he was a member of the product assurance group in Poughkeepsie, is now located at the IBM System Products Division laboratory, East Fishkill, New York. His interest is in the area of device design verification and failure modeling of power devices. He held a post-doctoral position before becoming a regular employee in March of 1977. Dr. Gaur received his B. Tech. in electrical engineering from the Indian Institute of Technology, Kanpur, India, in 1969; M.S. in electrical engineering from the University of Maine at Orono, in 1971; and Ph.D. in electrical and computer engineering from the University of Massachusetts, Amherst, in 1974. His previously published research work has been in the area of lattice vibrations and associated thermodynamic properties of III-V and II-VI compounds of zinc blende structure and the transport phenomena in semiconductor devices. Dr. Gaur is a member of Sigma Xi, Eta Kappa Nu, and the Institute of Electrical and Electronics Engineers.

Lloyd J. Griffiths

University of Colorado, Boulder

Dr. Griffiths received the B.S. degree in electrical engineering from the University of Alberta at Edmonton in 1963, and the M.S. and Ph.D. degrees in electrical engineering from Stanford University, California in 1965 and 1968. He was employed as staff scientist for the Barry Research Corporation, Palo Alto, California, where he worked on an automated ionospheric sounding system. In 1968 he joined the electrical engineering faculty at the University of Colorado, Boulder; since that time, he has pursued research and teaching activities in the areas of adaptive processing and the application of digital signal processing techniques to problems in radar systems, geophysics, and data storage systems. He is currently a consultant with General Products Division in Boulder, Colorado. In March 1971, he was awarded the IEEE Browder J. Thompson Memorial Prize for his IEEE publication entitled "A simple adaptive algorithm for real-time processing in antenna arrays." Dr. Griffiths is a member of the Society of Exploration Geophysicists, Sigma Xi, and Eta Kappa Nu.

Roger G. Kiwimagi

General Products Division, Boulder, Colorado

Mr. Kiwimagi is an advisory engineer in the recording channel architecture department. He is currently working on recording-channel design for advanced flexible-media storage systems. His primary interests are in coding for data transmission. He joined IBM in Poughkeepsie, New York in 1964 and has worked in Boulder since 1967. He has worked in scientific programming and engineering since joining IBM. He received a B.S. degree in mathematics from Dickinson State College, North Dakota in 1961, and an M.A. in mathematics from the University of Tennessee in 1963. He is a member of the Institute of Electrical and Electronics Engineers.

Edward G. Laenen

General Products Division, Boulder, Colorado

Mr. Laenen is a senior associate engineer in the contour development group in Boulder. He joined IBM at the Advanced Systems Development Division laboratory in Los Gatos in 1965 and transferred to Boulder in 1966, where he worked on the development of mass storage systems. His present interests include hydrodynamic lubrication, the head-tape interface, and tribology.

Simon S. Lam

Research Division, Yorktown Heights, New York

Dr. Lam joined IBM in 1974 as a member of the teleprocessing system studies group in the computer sciences department. His current technical interests are in computer-communication networks, satellite networks for data communication, and packet switching techniques. From 1972 to 1974 he was with the ARPA Network project at the University of California at Los Angeles. He received the B.S.E.E. degree in electrical engineering from Washington State University, Pullman, and the M.S. and Ph.D. degrees in engineering from the University of California at Los Angeles in 1970 and 1974. At UCLA he held a Phi Kappa Phi Fellowship from 1969 to 1970 and a Chancellor's Teaching Fellowship from 1969 to 1973. He is a member of the Association for Computing Machinery and the Institute of Electrical and Electronics Engineers. Dr. Lam was awarded the 1975 IEEE Communications Society Leonard G. Abraham Prize Paper Award in the field of communications systems. He is also a member of Tau Beta Pi, Sigma Tau, Phi Kappa Phi, and Pi Mu Epsilon.

Lawrence I. Lieberman

Research Division, Yorktown Heights, New York

Dr. Lieberman is a member of the automation research group at the Thomas J. Watson Research Center, where he joined IBM in 1974. His current interests include high-level language design and geometric modeling for computer-controlled mechanical assembly and computer "vision" for inspection and verification. He received his B.S. in 1970 in electrical engineering and his Ph.D. in computer and information sciences in 1974, both from the University of Pennsylvania. Dr. Lieberman is a member of the Association for Computing Machinery, Tau Beta Pi, Eta Kappa Nu, and Sigma Xi.

Chua Lin

General Products Division, San Jose, California

Mr. Lin is manager of the mechanical technology department at San Jose. He joined IBM in 1966 and has worked on the vacuum system in the electron beam recorder of the trillion-bit photodigital storage system for the Atomic Energy Commission. He is currently engaged in the development of air bearing sliders for disk files. His education includes a B.S. in 1965 and an M.S. in 1966, both in mechanical engineering from the University of California at Berkeley, and an M.S. in electrical engineering from the University of Santa Clara in 1970. Mr. Lin also received the M.B.A. from the University of Santa Clara in 1976. He is a member of American Society of Mechanical Engineers.

Kiyoshi Maruyama

Research Division, Yorktown Heights, New York

Dr. Maruyama is a member of the computer sciences department at the Thomas J. Watson Research Center, which he joined in 1974. His current research is in computer communication networking, especially in developing algorithms for network design. He has also worked in the areas of data bases, picture processing, and computational complexity. He received a B.S. degree in 1968 in electrical engineering from Nihon University, Tokyo, Japan; an M.S. degree in 1970 and a Ph.D. degree in 1972, both in computer science, from the University of Illinois, Champaign-Urbana. From 1972 until 1974 he was a postdoctoral fellow at the Research Center. Dr. Maruyama is a member of the Association for Computing Machinery.

Henri J. Nussbaumer

Compagnie IBM France, La Gaude, France

Mr. Nussbaumer, who is an IBM Fellow, initially joined IBM France at the development laboratory in Paris in 1957, where he worked on solid state circuits. In 1960 he transferred to the Poughkeepsie laboratory and worked on electrodeposition of magnetic films. He returned to IBM France at La Gaude in 1962 as manager of an advanced development group working on parametric circuits. He was appointed manager of line switching product development in 1964, manager of technology from 1965 to 1973, and manager of education and technical vitality from 1973 until 1975. He received an IBM Outstanding Contribution Award in 1969 for work on electronic crosspoint switches. Mr. Nussbaumer graduated from Ecole Centrale des Arts et Manufactures, Paris, in 1954.

Donald T. Tang

Research Division, Yorktown Heights, New York

Dr. Tang is currently manager of the teleprocessing system studies group in the computer sciences department at the Thomas J. Watson Research Center. His research interests include network flows, error-control coding, magnetic recording, system performance modeling and analysis, and communication system configuration. Before joining IBM in 1960 he received a B.S. degree in 1954 from the National Taiwan University and a Ph.D. degree in 1960 from the University of Illinois, both in electrical engineering. Dr. Tang is a member of the Association for Computing Machinery, Eta Kappa Nu, the Institute of Electrical and Electronics Engineers, and Sigma Xi.

Michael A. Wesley

Research Division, Yorktown Heights, New York

Dr. Wesley is a member of the automation research group at the Thomas J. Watson Research Center. He joined IBM in 1960 at the IBM United Kingdom Laboratories, Hursley, England, and transferred to Yorktown in 1966. He has worked on microprogrammed machines, character recognition, image processing, and system architectures. His current work is on programming systems for mechanical assembly. He received the B.A. degree in mechanical sciences and the Ph.D. degree in control engineering from Cambridge University, England, in 1960 and 1966.

Jack L. Zable

System Products Division, Endicott, New York

Dr. Zable joined IBM in 1964 and is a development engineer in the terminal printer technology area. He received a B.M.E. degree in 1963 from The City College of New York, an M.S.M.E. degree in 1965 from Purdue University, and a Ph.D. degree in mechanical engineering from Purdue University in 1969, studying under an IBM Resident Study Graduate Fellowship. Since rejoining IBM in 1969 he has been involved in the dynamic analysis of mechanical systems, and since 1973, in the design and development of ink jet components. Dr. Zable is a member of Pi Tau Sigma and Sigma Xi.